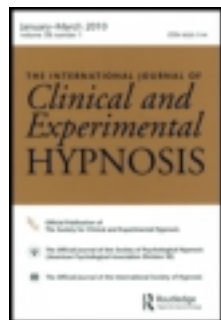


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ACTION AND DESIRE IN POSTHYPNOTIC RESPONDING¹

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Abstract: The authors examined the impact of suggestion focus and test type on the posthypnotic responding of high hypnotizable participants. The posthypnotic suggestion focused on either behavior (action) or experience (desire); posthypnotic responding was indexed in a formal test, an embedded test, and an informal test. In Experiment 1, the posthypnotic suggestion involved a motor act. Participants given the action suggestion were more likely to respond completely on the formal test than participants given the desire suggestion. Also, responding declined across the three tests; suggestion focus influenced responding on the informal but not the embedded test. In Experiment 2, the posthypnotic suggestion involved a verbal act. In contrast to Experiment 1, participants given the action or desire suggestion responded similarly on the formal test. As in Experiment 1, responding declined across the three tests; however, suggestion focus did not influence responding on the embedded or the informal tests. The findings highlight the meaningful effects of changes in what the hypnotist says, what participants are asked to do, and how their responses are assessed.

The behavior and experience of the person who has been hypnotized, given a suggestion for posthypnotic responding, awakened from hypnosis, and who displays a suggested response after that awakening have long been perplexing to those interested in understanding hypnosis and hypnotic phenomena. For instance, posthypnotic responding was a phenomenon of fascination for James (1890), Moll (1889/1892), Bernheim (1902), and Hull (1933), and those investigators focused on the apparently compulsive and involuntary nature of responses to posthypnotic suggestions. More recently, Sheehan and Orne (1968) and Weitzenhoffer (1974) highlighted the "classic suggestion effect" that is associated with posthypnotic responding in commenting on both the experiential

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compulsion and the person's seeming lack of awareness for the source of his or her response.

Understanding posthypnotic suggestion is important not only because of intrinsic interest in the phenomenon itself but also because of its use as a clinical and experimental tool. In terms of its use as a tool, for instance, Reyher (1961, 1962; see also Brickner & Kubie, 1936; Burns & Reyher, 1976; Matthews, Kirsch, & Allen, 1984; Sheehan, 1969; Sommerschild & Reyher, 1973) used a posthypnotic paradigm to examine the clinical relevance of hypnotically induced psychopathology; Blum (1979; Blum & Green, 1978; Blum, Hauenstein, & Graef, 1968; Blum & Nash, 1982; Blum & Wohl, 1971) used a similar paradigm to manipulate cognitive arousal and mood; and Zimbardo, Andersen, and Kabat (1981; see also Van Denburg & Kurtz, 1989) used posthypnotic suggestions to investigate the psychophysiological consequences of unexplained arousal. In terms of intrinsic interest in the phenomenon itself, for instance, Kellogg (1929) and Patten (1930) examined the duration of posthypnotic responding (see also Damaser, 1964; Edwards, 1963; Kihlstrom & Hoyt, 1988; Weitzenhoffer, 1950); Erickson and Erickson (1941; see also McCue, 1992; Reyher & Smyth, 1971) investigated whether a trance state is associated with the execution of posthypnotic suggestions; and Barber (1958, 1962; see also Edwards, 1965; Sheehan & Orne, 1968; Weitzenhoffer, 1957) focused on the role of amnesia in posthypnotic behavior.

In our research, we examined the impact of suggestion focus and test type on the posthypnotic responding of highly hypnotizable individuals. In terms of the focus of the suggestion, there appears to have been a blurring in the literature of whether a behavior or an experience is being suggested to occur posthypnotically. In past work, most suggestions have focused on individuals behaving in the suggested way (e.g., Damaser, 1964; Fisher, 1954; Kellogg, 1929; Kihlstrom & Hoyt, 1988; Orne, Sheehan, & Evans, 1968; Patten, 1930; Spanos, Menary, Brett, Cross, & Ahmed, 1987; Weitzenhoffer, 1950; Zimbardo et al., 1981); some suggestions have focused on individuals having the experience (e.g., Burns & Reyher, 1976; Matthews et al., 1984; Sommerschild & Reyher, 1973; Van Denburg & Kurtz, 1989); and some suggestions have blurred these components and told participants that they would both want to do something and would do so (e.g., Blum & Nash, 1982; Blum & Wohl, 1971; Reyher, 1961, 1962). It is generally the case, however, that posthypnotic suggestions have focused on the behavior to be performed, rather than on the subjective experience that may underlie that behavior. Thus, to better understand the impact of suggestions that focus on behavior or experience, we examined the impact of suggestion focus on posthypnotic responding. Specifically, we gave participants a posthypnotic suggestion that focused on either the behavior (*action*) or the experience (*desire*) to be displayed posthypnotically.

In terms of the type of test, previous research of particular relevance has been reported by Fisher (1954), Orne et al. (1968), and Spanos et al. (1987). Fisher gave 13 high or medium hypnotizable participants a posthypnotic suggestion to scratch their right ear every time they heard the word *psychology*. Participants were given a formal test, an informal test when the experimenter indicated that the experiment was complete, and a second formal test when the experimenter restructured the interaction to indicate that the experiment was still in progress. Fisher reported that all participants responded on the first formal test and 69.2% stopped responding on the informal test; however, of these participants, 77.8% again responded on the second formal test. Orne et al. gave 17 high hypnotizable, real participants and 14 low hypnotizable, simulating participants a suggestion to touch their foreheads each time they heard the word *experiment* in the next 48 hours. Posthypnotic responding was tested in the experimental setting by the experimenter and in the reception area by a secretary who used the cue word when the participants spoke to her after the first session and again before the next session. Although 70.6% of high hypnotizable participants did not respond away from the experimental setting, 29.4% of high hypnotizable participants responded consistently across the experimental and reception settings; no simulating participants showed comparable behavior. In a similar paradigm, Spanos et al. gave 10 high hypnotizable, real participants and two groups of 10 low hypnotizable, simulating participants a posthypnotic suggestion to cough whenever they heard the word *psychology*. Posthypnotic responding was tested in the experimental setting by an experimenter and outside that setting by confederates. Spanos et al. reported that neither real nor simulating participants responded outside the experimental setting. In commenting on such findings, Fisher concluded that the performance of a posthypnotic suggestion is a function of the individual's understanding of the hypnotist's expectations; Orne et al. concluded that posthypnotic responding cannot be accounted for by compliance alone and that for some individuals, hypnosis is able to produce an enduring quasi-automatic response; and Spanos et al. concluded that posthypnotic responding is expectancy-mediated, goal-directed action. Thus Fisher, Orne et al., and Spanos et al. were all interested in the impact of different types of tests on posthypnotic responding. To further investigate this issue, we focused on the impact of test type by indexing posthypnotic responding in three tests: in a *formal* test that immediately followed the awakening procedure, an *embedded* test (where the cue to respond was embedded within an inquiry question), and an *informal* test (where the cue to respond was ambiguous).

In our research, we were interested in the performance of high hypnotizable individuals, and we looked at their performance in a fine-grained way. In particular, we were interested in considering individuals who responded in a technically complete and direct way, individuals

who responded in an incomplete and indirect way, and individuals who did not respond to the test of the posthypnotic suggestion. In this article, we report on two experiments: Experiment 1 focused on posthypnotic responding that involved a motor act; Experiment 2 involved a verbal act.

EXPERIMENT 1

We gave high hypnotizable participants a posthypnotic suggestion for a motor behavior (*viz.*, putting hands behind head). The suggestion focused on either the behavior (action) or the experience (desire) of participants, and testing occurred in a formal way, an embedded way, and an informal way. We scored posthypnotic responding as complete (a behavioral response that corresponded to the letter of the suggestion), as incomplete (a behavioral reaction consistent with the suggestion within 30 seconds of the cue phrase), or as no response (no behavioral reaction within 30 seconds of the cue phrase). We expected that the action, rather than the desire, suggestion would lead to more complete responses because it was more directive of the response. Further, we expected that there would be a change in responding across the three contexts of testing and that this change would reflect the decreasing explicitness of the test type.

METHOD

Participants

Forty-two (11 male and 31 female) high hypnotizable individuals of mean age 21.83 years ($SD = 8.26$), who were undergraduate psychology students at the University of New South Wales, voluntarily participated in the experiment in return for research credit of 1 hour. Participants were preselected on the basis of their high scores on the 12-item Harvard Group Scale of Hypnotic Susceptibility, Form A (HGSHS:A; Shor & Orne, 1962). Their high hypnotic susceptibility was confirmed by a 10-item tailored version of the Stanford Hypnotic Susceptibility Scale, Form C (SHSS:C; Weitzenhoffer & Hilgard, 1962; see also Hilgard, Crawford, Bowers, & Kihlstrom, 1979) that incorporated the posthypnotic suggestion of interest. Participants had scored in the range of 10-12 on the HGSHS:A ($M = 10.67$, $SD = 0.69$; 26 participants had displayed posthypnotic responding on the HGSHS:A) and 8-10 on the tailored SHSS:C ($M = 9.36$, $SD = 0.76$).

Apparatus

A Sony Video 8 Handycam and a Sony Betamax videocassette recorder (Model SLC35AS) were used to record from the beginning of the posthypnotic suggestion until the conclusion of the experimental session onto Sony L-500 beta videocassettes. The videocamera was focused on

the participant throughout, and the recorded image included the individual's head, upper body, arms, and hands.

Procedure

The experiment involved a hypnosis session and an inquiry session. Both sessions were conducted by the experimenter (the hypnotist). The item of interest in the present experiment, the posthypnotic suggestion, was incorporated into the tailored SHSS:C and was administered just prior to the deinduction procedure. The three tests of posthypnotic responding (i.e., formal, embedded, and informal) were administered during the posthypnotic inquiry session.

Hypnosis session. Initially, the experimenter welcomed participants and invited them to sit in a comfortable, high-backed chair and gave them an informed-consent form to read and sign. Following this, she administered the SHSS:C induction procedure and then gave the SHSS:C suggestions of hand lowering, moving hands apart, mosquito hallucination, taste hallucination, arm rigidity, dream, age regression, arm immobilization, anosmia to ammonia, and posthypnotic amnesia. The experimenter then administered one of two versions of the posthypnotic suggestion; 20 individuals received the action version and 22 received the desire version. The verbatim *action-desire*, respectively, suggestion was as follows:

After a while, I will say to you, "Well, what did you think of that?" When I do, you will (*put your hands behind your head*) (*feel a desire to put your hands behind your head*). As soon as I say to you, "Well, what did you think of that?" you will (*immediately*) (*feel an overwhelming urge to*) put your hands behind your head. You will (*put your hands behind your head*) (*get this urge to put your hands behind your head*). You will (*do this*) (*feel a desire to do this*), but you will forget that I told you so, just as you will forget the other things, until I tell you, "Now you can remember everything." When I say, "Well, what did you think of that?" you will (*put your hands behind your head*) (*feel a desire to put you hands behind your head*).

After the posthypnotic suggestion, the experimenter allowed 10 s before she administered a standardized deinduction procedure.

Posthypnotic inquiry session. Immediately following the deinduction procedure, the experimenter administered the formal test. She asked participants, "Well, what did you think of that?" and allowed 30 seconds to elapse from the end of the cue phrase. She avoided eye contact and noted their behavioral and verbal responses. The experimenter then administered the embedded test within a short inquiry about the nature of the participants' reactions to the cue phrase. After asking individuals to describe how they were feeling, she asked them a question that contained the cue phrase: "A few moments ago when I said to you, 'Well, what did you think of that?' did that have any meaning for you?" The experimenter allowed 30 seconds to elapse and noted their behavioral

and verbal responses. Also, she asked participants to rate how much they felt like putting their hands behind their head when they heard the cue phrase during the formal test (1 = *did not at all feel like it*, 7 = *totally felt like it*).

Following this, the experimenter administered the informal test. She asked participants, "Well, what did you think of that?" and allowed 30 seconds to elapse from the end of the cue phrase. She avoided eye contact and noted behavioral and verbal responses. If participants asked for clarification, the experimenter did not respond until the 30 seconds had elapsed; during this period, the experimenter wrote on a notepad. This test was informal in that it was not explicit whether it was a test of posthypnotic responding or a question about individuals' reactions to the overall experiment. Following this, the experimenter conducted the standard SHSS:C inquiry into posthypnotic amnesia, and then she canceled the posthypnotic amnesia and posthypnotic suggestion. Finally, the experimenter answered any questions, thanked participants, and ended the session.

RESULTS

Posthypnotic responses on each of the three tests were categorized by the hypnotist and an independent rater (who was unaware of the suggestion version that participants had received) according to whether they constituted a complete response, an incomplete response, or no response. Overall interrater reliability was $k = 0.91$ (kappa statistic, see Cohen, 1960; formal: $k = 0.84$; embedded: $k = 0.88$; informal: $k = 0.91$).⁴

Responding on formal test. Thirty-nine (93%) participants gave a complete ($n = 30$) or incomplete ($n = 9$) response and 3 (7%) participants gave no response. The focus of suggestion had an impact on posthypnotic responding. All participants given the action version responded completely ($n = 19$, 100%), whereas those given the desire version were as likely to make a complete ($n = 11$, 55%) as an incomplete response ($n = 9$, 45%), $\chi^2(1, n = 39) = 11.12, p < .001$.⁵ That is, the action version was more likely to lead to a complete behavioral response. The experimenter asked participants to rate how much they felt like putting their hands behind their head when they heard the cue phrase during the formal test (1 = *did not at all feel like it*, 7 = *totally felt like it*). Participants who gave a complete response did not differ significantly in their ratings of compul-

⁴For the analyses presented in this article, main effects and interaction effects are reported if significant, and the level of significance for the statistical analyses is reported for each analysis; the level of significance for any post hoc comparisons is $p < .05$. Analyses are based on the hypnotist's categorizations of response; analyses based on the independent rater's categorizations of response showed the same pattern of findings.

⁵None of the effects presented in this article, either behavioral or experiential, can be explained in terms of differences in hypnotizability as measured by the HGSHS:A or the tailored SHSS:C.

sion according to whether they received the action or the desire version of the suggestion ($M = 5.21$, $SD = 2.10$, and $M = 6.18$, $SD = 1.25$, respectively). However, participants given the desire version of the suggestion who gave a complete response ($M = 6.18$, $SD = 1.25$) gave higher ratings than those who showed an incomplete response ($M = 4.11$, $SD = 2.20$), $t(18) = 2.65$, $p < .05$; notably, those who showed some response ($M = 5.25$, $SD = 2.00$) did not give higher ratings than those who did not ($M = 3.50$, $SD = 0.71$). Thus, the desire version was more likely than the action version to lead to experiential, as well as behavioral, variability. Overall, the action version led to uniformly complete responses, whereas the desire version led to more variable responses on the formal test. Also, posthypnotic responding during the formal test by those given the desire version was linked to the compulsion they reported feeling.

Responding across tests. Across the three tests, posthypnotic responding was influenced by the test type. Figure 1 presents the pattern of responding on the formal, embedded, and informal tests. Regardless of the version, the number of participants responding declined as the explicitness of the tests decreased. Separate McNemar tests for the significance of changes, $p < .05$, indicated a significant decrease from the formal to the embedded test, but no significant change from the embedded to the informal test.

The majority of participants who responded during the formal test did not respond during the embedded or informal tests. However, five participants who did not respond during the embedded test resumed responding during the informal test. Although there was no difference in overall responding between the embedded test and the informal test, responding during the informal test varied according to the type of suggestion. Seven (37%) participants who had been given the action version and had made a complete response during the formal test made an incomplete response during the informal test; no similar participants given the desire version made an incomplete response during the informal test, $\chi^2(2, n = 30) = 5.69$, $p < .06$.

Discussion

Participants given the action, rather than the desire, suggestion were more likely to respond completely on the formal test. That is, participants given the action suggestion responded in a complete way, whereas those given the desire suggestion responded in either a complete or incomplete way. This is consistent with our expectation that a suggestion focusing on behavior, rather than experience, would lead to more definite behavioral responding. Notably, participants who responded in a complete way rated their compulsion to respond similarly whether they had been given the action or the desire suggestion; participants who had been given the desire suggestion and who responded in an incomplete way rated their compulsion less than those who responded completely. These

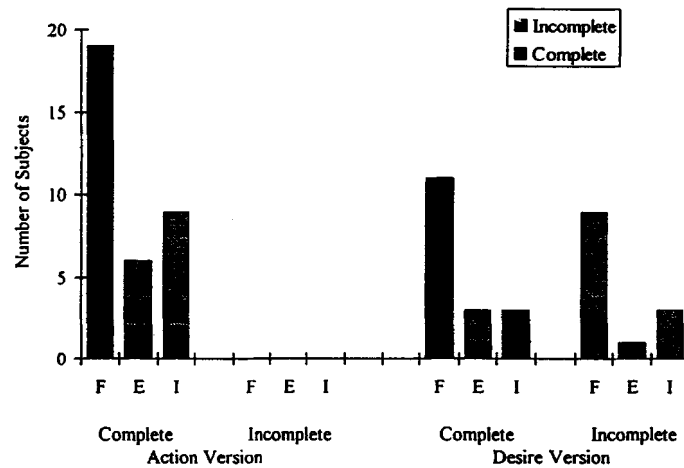


Figure 1. Experiment 1: Posthypnotic responding across formal, embedded, and informal tests.

Note. F = formal, E = embedded, and I = informal test. Categorization of complete and incomplete responding is based on the formal test.

data point to a correspondence between degree of experience and level of behavioral responding.

Posthypnotic responding declined across the formal, embedded, and informal tests. Some participants responded consistently across the three tests, others responded only on the formal test, and others responded on the formal and informal tests, but not on the embedded test. The suggestion that participants had been given influenced responding on the formal and the informal tests. On the informal test, action participants who responded tended to move from complete to incomplete responding; desire participants who responded maintained the response (either complete or incomplete) they had given on the formal test. That is, whereas the action suggestion led to complete responding when tested formally, it was associated with incomplete responding when tested informally.

EXPERIMENT 2

Experiment 2 was a replication of Experiment 1, using a verbal rather than a motor behavior. We gave high hypnotizable participants a posthypnotic suggestion for a verbal behavior (viz., saying "Psych 1"). The suggestion focused on either the behavior (action) or the experience (desire) of participants, and testing occurred in a formal way, an embedded way, and an informal way. We scored posthypnotic responding as direct (verbal response was "Psych 1"), as indirect (verbal response

incorporated "Psych 1" within a sentence or other utterance), or as no response (no verbal response within the 30 s of the cue phrase or a verbal response that was not or did not include "Psych 1"). We expected to replicate and extend the findings of Experiment 1.

METHOD

Participants

Forty-four (14 male and 30 female) high hypnotizable individuals of mean age 20.48 years ($SD = 4.42$), who were undergraduate psychology students at the University of New South Wales, voluntarily participated in the experiment in return for research credit of 1 hour. Participants were preselected on the basis of their high scores on the 12-item HGSHS:A, and their high hypnotic susceptibility was confirmed by the 10-item tailored SHSS:C that incorporated the posthypnotic suggestion of interest. Participants had scored in the range of 9-12 on the HGSHS:A ($M = 10.27$, $SD = 0.97$); 15 participants had displayed posthypnotic responding on the HGSHS:A) and 8-10 on the tailored SHSS:C ($M = 8.86$, $SD = 0.77$).

Apparatus

A Panasonic M40 VHS movie camera and a Panasonic HQ VHS videocassette recorder were used to record from the beginning of the posthypnotic suggestion until the conclusion of the experimental session onto Sony L-750 videocassettes. The videocamera was focused on the participant throughout, and the recorded image included the individual's head, upper body, arms, and hands.

Procedure

The hypnosis session followed the procedure of Experiment 1, except the two versions of the posthypnotic suggestion concerned a verbal behavior; 22 individuals received the action version and 22 received the desire version. The verbatim *action-desire*, respectively, suggestion was as follows:

After a while, I will say to you, "Well, what did you think of that?" When I do, you will (say "Psych 1") (feel a desire to say "Psych 1"). As soon as I say to you, "Well, what did you think of that?" you will (immediately) (feel an overwhelming urge to) say "Psych 1." You will (say "Psych 1") (get this urge to say "Psych 1"). You will (say this) (feel a desire to say this), but you will forget that I told you so, just as you will forget the other things, until I tell you, "Now you can remember everything." When I say, "Well, what did you think of that?" you will (say "Psych 1") (feel a desire to say "Psych 1").

The postexperimental inquiry session followed the procedure of Experiment 1 and included the formal, embedded, and informal tests and the rating of compulsion.

RESULTS

Posthypnotic responses on each of the three tests were categorized by the hypnotist and an independent rater (who was unaware of the suggestion version that participants had received) according to whether they constituted a direct response, an indirect response, or no response. Overall interrater reliability was $k = 0.91$ (kappa statistic, see Cohen, 1960; formal: $k = 0.85$; embedded: $k = 1.00$; informal: $k = 0.82$).

Responding on formal test. Thirty-nine (89%) participants gave a direct ($n = 30$) or indirect ($n = 9$) response and 5 (11%) participants gave no response; this response rate was similar to that obtained in Experiment 1. Unlike Experiment 1, however, the focus of suggestion had no impact on posthypnotic responding. Seventeen (85%) participants given the action version gave a direct response and 3 (15%) gave an indirect response; 13 (68%) participants given the desire version gave a direct response and 6 (32%) participants gave an indirect response. A two-way ANOVA (Suggestion Focus \times Response Category) of the ratings of compulsion yielded a significant interaction effect, $F(1, 38) = 4.16, p < .05$. Across the suggestion conditions, ratings for participants given the action version and showing a direct response ($M = 5.59, SD = 1.42$) were equivalent to ratings for participants given the desire version and showing a direct response ($M = 5.31, SD = 1.37$). However, ratings for participants given the action version and showing an indirect response ($M = 4.67, SD = 0.58$) were significantly lower than those given the desire version and showing an indirect response ($M = 6.50, SD = 0.84$). Within the suggestion conditions, ratings for participants given the action version and showing a direct response ($M = 5.59, SD = 1.42$) were similar to those showing an indirect response ($M = 4.67, SD = 0.58$). Likewise, ratings for participants given the desire version and showing a direct response ($M = 5.31, SD = 1.38$) were similar to those showing an indirect response ($M = 6.50, SD = 0.84$). Also, participants given the action version and who showed some response ($M = 5.45, SD = 1.36$) gave higher ratings than those who did not ($M = 1.50, SD = 0.71$), $t(20) = -4.00, p < .001$. However, there was no difference in ratings between participants given the desire version who showed some response ($M = 5.68, SD = 1.34$) and those who did not ($M = 4.33, SD = 3.10$). Overall, the experience of individuals showing similar verbal responses to the cue phrase were rated differently by them, depending on whether they received the action or desire versions; for the action version, indirect response was linked to moderate compulsion, and for the desire version, indirect response was linked to strong compulsion.

Responding across tests. Across the three tests, posthypnotic responding was influenced by the test type. Figure 2 presents the pattern of responding on the formal, embedded, and informal tests. The number of participants showing direct and indirect responses declined across the tests. Separate McNemar tests indicated a significant decrease from the formal

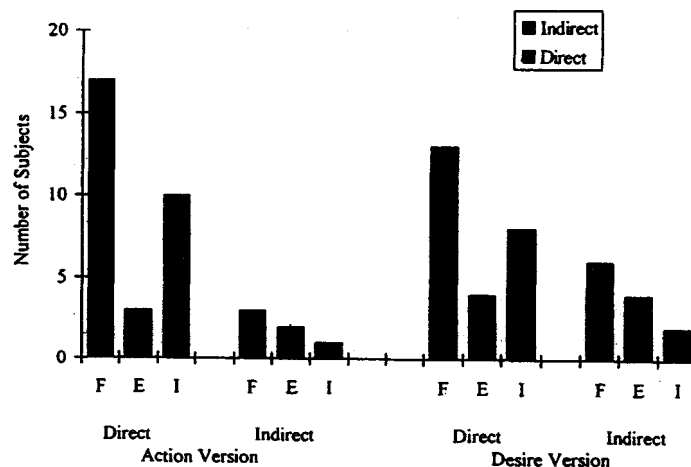


Figure 2. Experiment 2: Posthypnotic responding across formal, embedded, and informal tests.

Note. F = formal, E = embedded, and I = informal test. Categorization of direct and indirect responding is based on the formal test.

to the embedded test, $p < .05$, but no significant change from the embedded to the informal test. This is consistent with results obtained in Experiment 1.

Participants who responded during the formal test typically did not respond on the embedded test, and those who did showed an indirect response. During the informal test, however, 10 participants who had made direct responses during the formal test resumed responding. If participants showed an indirect response during the formal test, then they continued that way across the tests. Notably, responding during the embedded or informal tests was not related to which suggestion version had been given.

Discussion

Responding on the formal test following both the action and desire suggestions reflected both direct and indirect responding. This is in contrast to Experiment 1. In Experiment 2, the two versions of the suggestion were as likely to lead to a direct response (i.e., saying "Psych 1") as they were to an indirect response (i.e., including "Psych 1" in a longer, more natural utterance). Thus the variability in responding was similar for both types of suggestions. Notably, participants who responded in an indirect way differed in the degree of compulsion associated with that response; desire participants who responded indirectly rated their compulsion appreciably higher than the action participants

who responded indirectly. The compulsion ratings of those who responded directly were similar and fell between the ratings of the action and desire participants who responded indirectly. This suggests that different experiences were associated with similar behaviors for those who responded indirectly following the action or desire suggestions.

Posthypnotic responding declined across the formal, embedded, and informal tests. As in Experiment 1, some participants responded consistently across the three tests, others responded only on the formal test, and others responded on the formal and informal tests, but not on the embedded test. Unlike Experiment 1, the suggestion that participants had been given did not influence the pattern of responding on any of the tests.

GENERAL DISCUSSION

The research reported here highlights the relevance to understanding posthypnotic suggestion of both the focus of the suggestion given by the hypnotist and the way in which the response of participants is tested. The suggestions used in our two experiments focused on either behavior (action) or experience (desire), and participants' responses were tested formally, in an embedded context, and informally. Across our two experiments, there were consistencies in the impact of test type on responding and in the relationship between participants' self-reported compulsion and their behavioral responding. There were differences across the experiments, however, in the impact of the suggestion focus on the performance of either a motor or a verbal act. Overall, the two experiments presented both a novel approach to the examination of posthypnotic suggestion and some specific new findings. Particular aspects of our approach included the differentiation between action and desire in the suggestion focus, the consideration of both a motor and a verbal act, and a fine-grained classification of responding. Particular findings included the differences in behavioral and experiential responding according to the focus of the suggestion and the decline in responding across different types of tests.

As expected, the focus of the suggestion had a major impact on responding. When the response was a specific motor act, the behaviorally focused suggestion led to that behavior being displayed in a complete rather than an incomplete way (or not at all); the experientially focused suggestion led to that behavior being shown in a complete or incomplete way (or not at all). In comparison, a different pattern occurred when the response was a verbal act. In this situation, direct and indirect responding (or no responding) was associated with both the behaviorally and experientially focused suggestions. This finding implies that a suggestion that encourages individuals to experience something may have a different impact from a suggestion that simply asks

them to enact an event. Previous investigations of the phenomenon have predominantly focused on enactment (e.g., Fisher, 1954; Orne et al., 1968; Spanos et al., 1987), whereas the clinically oriented investigations that have used posthypnotic suggestion as a tool have predominantly focused on experiences (e.g., Blum & Green, 1978; Burns & Reyher, 1976; Perkins & Reyher, 1971; Sommerschild & Reyher, 1973). One implication of our findings is that investigators need to be specific about their use of either one or the other foci so as to clearly understand the impact of the suggestion; notably, ambiguities in past results may well have been due to different foci of the suggestions used. Further work is needed, moreover, to examine the best way to maximize the impact of a posthypnotic suggestion, perhaps by combining a behavioral and experiential focus; this work would be of particular relevance in clinical settings. Also, further work is needed to inquire into the phenomenal experiences of participants in a more detailed way than we did in the present research, and the experiential analysis technique of Sheehan and McConkey (1982) may provide a method for such inquiry.

As hypothesized, the way in which the response was tested led to different patterns of performance. In addition to the formal test, the posthypnotic responding of participants was tested in an embedded and in an informal test. In both experiments, the posthypnotic responding of participants declined across the tests. Also, in both experiments, participants were least likely to respond on the embedded test. This finding contrasts with the position of Sheehan and Orne (1968; see also Orne et al., 1968) that individuals will react to a cue for posthypnotic responding even when that cue is embedded into other words or events. Our findings indicate that not only must individuals be "prepared" to be tested but also they must recognize the test as such. Although fewer participants responded on the informal than on the formal test, some who did not respond on the embedded test responded on the informal test. Further, when a motor act was involved, responding on the informal test depended on the focus of the suggestion, but this did not occur when a verbal act was involved. These findings are variously congruent with Fisher (1954), Orne et al. (1968), and Spanos et al. (1987). As Fisher and Spanos et al. found, the nature of the test affects the level of responding. But as Orne et al. also found, some individuals maintain their response across the various tests.

Overall, the changing pattern of participants' posthypnotic behavior in response to the behaviorally and experientially focused suggestions across the various test points is consistent with the notion that individuals do not respond unless they are operating with an acute expectancy or preparedness to receive a cue and/or if the overall nexus of cues in the setting conveys that a test of the posthypnotic suggestion is imminent. These findings are consistent with work on hypnotic pseudomemory, for example, that also highlights how participants'

responses change following shifts in the testing context (e.g., Barnier & McConkey, 1992; McConkey, Labelle, Bibb, & Bryant, 1990). Thus, just as what the hypnotist says affects performance, how participants' responses are tested is important as well. In this sense, the embedded and informal tests may have given mixed messages to participants; the embedded test asked them to respond behaviorally and to answer the question about their earlier response. As Kihlstrom (1995; see also Grice, 1975) noted, individuals seek to make sense of the communications they receive and respond on the basis of their interpretation. Relatedly, the decline in responding across the tests may have been due to an interpretation by participants that once they had responded on the formal test, there was no need to respond again, or it may have been due to the simple passage of time (e.g., see Coe, 1973, 1976; Nace & Orne, 1970). Thus it would be useful to test responding in embedded and informal ways before a formal type of test is given, as well as in terms of the impact of the number of times that participants are tested in different ways. Moreover, to better appreciate the nexus of cues impinging on participants, future work could usefully employ a simulating condition to index the demand characteristics of the test settings (Orne, 1959).

In our research, we drew a distinction between technically complete responding and incomplete responding. We found that the behaviorally focused suggestion led to complete but not incomplete responding and the experientially focused suggestion led to both complete and incomplete responding when a motor act was involved; however, when a verbal act was involved, we found that both of the suggestions led to direct and indirect responding. More important, the findings pointed to an association between participants' sense of compulsion and their manner of responding. In Experiment 1, complete or incomplete behavioral responses and ratings of compulsive experience were strongly associated. In Experiment 2, the relationship between direct or indirect behavioral response and compulsive experience were influenced by the suggestion that participants were given. Thus the distinction among complete (or direct), incomplete (or indirect), and no responding was a useful one, and it highlights the question of what can be said to constitute a legitimate response to a posthypnotic suggestion. That is, although incomplete or indirect responding is obviously not behaviorally equivalent to complete or direct responding, it can be said to be legitimate at an experiential level for the participants. This distinction is consistent with research into other phenomena. For example, in work on trance logic, incomplete responding (e.g., transparent hallucinations) has been interpreted as either evidence of distinctive cognitive processes (McConkey, Bryant, Bibb, & Kihlstrom, 1991; Orne, 1959) or evidence of hypnotized individuals' inability to have a complete or perfect hallucinatory experience (Spanos, 1986; Spanos, de Groot, & Gwynn, 1987; Stanley, Lynn, & Nash, 1986). However, consistent with our findings, research on trance

logic has also found differences in individuals' phenomenal experiences according to the completeness of their response (McConkey et al., 1991; Stanley et al., 1986). Overall, these findings point to the importance of considering both the nature of the response and the subjective experience associated with it.

Incomplete or indirect responding may also reflect individuals' attempts to respond in a way that makes sense to them in the particular setting in which they find themselves. Thus, although such responding is not "technically correct," it may be a particular way of resolving the conflicting demands with which individuals are faced (McConkey, 1983a, 1983b, 1991). For instance, a suggestion to respond in a particular way conflicts with tests of decreasing explicitness and increasing ambiguity and is resolved by individuals responding incompletely or indirectly; that is, by "hedging their bets." For some individuals, this resolution can be very successful. It needs to be acknowledged that although we scored the motor behavior as complete or incomplete (Experiment 1) and the verbal behavior as direct or indirect (Experiment 2), complete and direct and incomplete and indirect are not exact parallels. Complete and direct responding involved a clear response to the letter of the suggestion, with participants showing no more and no less than the suggested behavior. Partial responding involved an essentially incomplete response to the suggestion, with participants typically moving their hands some, but not all, of the way toward the back of their heads; thus it was less than the suggested motor behavior. Indirect responding involved participants saying "Psych 1" within a naturally flowing utterance, rather than saying only the words "Psych 1"; thus, in a sense, it was both more and less than the suggested verbal behavior.

Future research needs to explore the parameters of a legitimate response to a posthypnotic suggestion, particularly in terms of whether an incomplete response reflects "less than complete responding" or something quite acceptable from the perspective of the experiencing individual. Relatedly, the place of the response in the flow of the social interaction needs to be explored. Whereas putting hands behind one's head would typically be consistent with the social flow, saying "Psych 1" in response to the question, "Well, what did you think of that?" would typically bring the social flow to an abrupt halt. Thus participants' pattern of responding across the experiments may have been influenced by perceptions of the possible impact of the responses. In this respect, Sheehan and Orne (1968; see also Barber, 1962) argued that "only the more unusual acts disrupt the normal stream of consciousness" (p. 212) and may be performed less frequently than behavior that is innocuous and consistent with ongoing social behavior. Future research could examine the relevance to responding of the social meaning of the response, as indexed by the perceptions and anticipations of individuals rather than the actual reaction of the hypnotist to their responses. Also,

the degree to which individuals experience amnesia for the source of their responses may be relevant, and given that we did not assess this in the present experiments, it could be usefully explored in further research.

In summary, the present research attempted to understand individuals' posthypnotic responding by investigating the way in which particular factors impinge on their behavior and experience. In future work, it would be useful to examine further the impact of suggestion complexity or test complexity on responding. Relatedly, there are aspects of the test method and test setting that could be examined more distinctively. For example, we used a cue phrase that was a question as well as a cue ("Well, what did you think of that?") rather than a one-word cue (e.g., "psychology," "experiment"), and we acknowledge that the inherent ambiguity of our cue may have influenced responding across the various test settings. Overall, however, our findings highlight the meaningful effects of changes in what the hypnotist says, what participants are asked to do, and how their responses are assessed. A framework for understanding posthypnotic responding that takes these findings into account needs to be empirically tested in further research.

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Handlung und Verlangen bei posthypnotischem Reagieren

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Abstrakt: Die Autoren untersuchten den Einfluß des Aufmerksamkeitsfokus bei Suggestionen und der Art des Testes auf die posthypnotischen Reaktionen von hoch suggestiblen Probanden. Die posthypnotischen Suggestionen hatten ihren Fokus entweder auf dem Verhalten (Handeln) oder auf der Erfahrung (Verlangen); Die posthypnotischen Reaktionen wurden in einem formalen Test, einem eingebundenen Test, und einem formlosen Test gemessen. Im

ersten Experiment, enthielt die posthypnotische Suggestion eine motorische Handlung. Probanden, welche die Handlungssuggestion erhielten reagierten dabei vollständiger beim formalen Test, als die Probanden, welche die Erfahrungssuggestion erhielten. Die Reaktionsbereitschaft nahm innerhalb der drei Testarten ab. Der Fokus der Suggestion beeinflusste die Reaktion beim formlosen Test, nicht aber beim eingebundenen Test. Im zweiten Experiment, beinhaltete die posthypnotische Suggestion eine verbale Handlung. Im Gegensatz zum ersten Experiment reagierten die Probanden die die Handlung oder die Erfahrungssuggestion erhielten ähnlich beim formalen Test. Wie beim ersten Experiment nahm die Reaktionsbereitschaft innerhalb der drei Testarten ab. Dennoch beeinflusste der Fokus der Suggestion nicht die Reaktion beim eingebundenen oder formlosen Test. Die Ergebnisse machen die bedeutsamen Effekte der Veränderungen dessen, was der Hypnotiseur sagt, was von den Probanden erwartet wird und wie ihre Reaktionen erfaßt werden, deutlich.

L'action et le désir dans la réponse post-hypnotique

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Résumé: Les auteurs examinent l'impact du focus sur la suggestion et du type de test sur la réponse post-hypnotique de participants à susceptibilité élevée à l'hypnose. Les suggestions post-hypnotiques étaient centrées soit sur le comportement (action) ou l'expérience (désir); la réponse post-hypnotique était incorporée à un test formel, un test masqué et à un test informel. Dans l'Expérience 1, les suggestions post-hypnotiques impliquaient un acte moteur. Les participants qui recevaient la suggestion d'agir étaient plus susceptibles de répondre complètement lors du test formel que les participants recevant la suggestion de désir. De plus, les réponses ont diminué au travers des trois tests; la suggestion spécifique a influencé la réponse au test informel mais pas au test masqué. Dans l'Expérience 2, la suggestion post-hypnotique impliquait la verbalisation d'un acte. Contrairement à l'Expérience 1, les participants recevant les suggestions d'action ou de désir ont répondu de façon similaire au test formel. Comme dans l'Expérience 1, les réponses ont diminué à travers des trois tests; toutefois, la suggestion spécifique n'a pas influencé la réponse aux tests masqué ou informel. Les résultats renseignent sur l'effet significatif des changements en rapport avec les suggestions verbales du thérapeute et les demandes faites aux participants ainsi que sur la façon dont leurs réponses sont évaluées.

Acción y deseo en las respuestas hipnóticas

Amanda J. Barnier y Kevin M. McConkey

Resumen: Los autores examinaron el impacto de la sugestión focalizada y el tipo de test en las respuestas poshipnóticas de participantes altamente sugestionables. La sugestión poshipnótica fué focalizada ya sea en la conducta (acción) o en la experiencia (deseo); la respuesta poshipnótica fué incluida en un test formal, un test de encastre y en uno informal. En el Experimento 1, la sugestión poshipnótica incluía un acto motor. Los participantes a los que se

les dió la sugestión de acción fueron más propensos a responder de manera completa en el test formal que los participantes a los que se les dió la sugestión de deseo. Además la respuesta declinó a través de los tres test; la sugestión prolongada influenció la respuesta en el test informal, no así en el test de encastre. En el Experimento 2, la sugestión poshipnótica incluyó un acto verbal. Contrariamente al Experimento 1, los participantes a los que se les dió una sugestión de acción o de deseo respondieron de manera similar en el test formal. De igual manera que en el Experimento 1, la respuesta declinó en los tres tests; sin embargo, la sugestión prolongada no influenció la respuesta en el test de encastre o en el informal. Estos hallazgos ponen de relieve los importantes efectos de los cambios producidos dependiendo de lo que el investigador diga, de lo que se pide hacer a los participantes y de la manera como sus respuestas son evaluadas.